



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Mihara et al.
Serial No.: 10/680,077
Filed: October 7, 2003
For: DISK ROTATING APPARATUS AND INFORMATION
RECORDING/PRODUCING APPARATUS
Art Unit: Not yet assigned
Examiner: Not yet assigned
Customer No.: 27623
Attorney Docket No.: 40020837-02

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

In accordance with applicant's duty of disclosure under 37 C.F.R. §1.56, please find attached hereto form PTO-1449 listing information which may be material to the patentability of this application, filed on October 7, 2003. This Information Disclosure Statement is being filed:

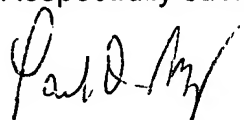
- ☐ Within three (3) months of the filing date of the national application;
- ☐ Within three (3) months of the date of entry of the national stage as set forth in 37 C.F.R. §1.491 in an international application;
- ☒ **XXX** Before the mailing date of a first Office Action on the merits;
- ☐ After the filing date or date of first Office Action, but before the mailing date of a final action under 37 C.F.R. §1.113, provided that this occurs prior to the issuance of a Notice of Allowance and provided that this I.D.S. is accompanied by either a certification as specified in 37 C.F.R. §1.97(e) or the fee set forth in 37 C.F.R. §1.17(p);

- _____ After the filing date or date of first Office Action, but before the mailing date of a Notice of Allowance under 37 C.F.R. §1.311, provided that this occurs prior to the final action and provided that this I.D.S. is accompanied by either a certification as specified in 37 C.F.R. §1.97(e) or the fee set forth in 37 C.F.R. §1.17(p);
- _____ After the mailing date of a final action under 37 C.F.R. §1.113, provided that this occurs prior to the issuance of a Notice of Allowance and provided that this I.D.S. is accompanied by a certification as specified in 37 C.F.R. §1.97(e) and the fee set forth in 37 C.F.R. §1.17(p); and
- _____ After the mailing date of a Notice of Allowance under 37 C.F.R. §1.311, provided that this occurs prior to or subsequent to the payment of the Issue Fee and provided that this I.D.S. is accompanied by a certification as specified in 37 C.F.R. §1.97(e) and the fee set forth in 37 C.F.R. §1.17(p).
- _____ Filing with RCE Under 37 CFR 1.114.

Also enclosed are copies of US Patent No. 5,254,946; Japanese Publication Nos. 2000-331460, 2002-157858 and 2000-0187821; Articles entitled, "Study on Reduction of Disk Flutter...," "Study of Aerodynamic Characteristics...," "Taming Disk/Spindle Vibrations...," "Study of Aerodynamic Characteristics in Hard Disk Drives...," "An Analysis of Disk Flutter...," "Reducing Disk Flutter..." and "Suppression of Disk Flutter."

It should be understood that attention has been called to the references that have been deemed to be pertinent to the claimed present invention. In concluding what was pertinent, the criteria employed was considered most appropriate in light of the invention shown in the present application. However, the Examiner or others may deem some other criteria to be just as appropriate or more appropriate. Therefore, the Examiner is respectfully urged to review the listed references and to make the usual careful independent search for other prior art that may be pertinent.

Respectfully submitted,



January 20, 2004

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FORM PTO-1449

Docket Number (Optional)

Application Number

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 INFORMATION DISCLOSURE CITATION
IN AN APPLICATION

(Use several sheets if necessary)

Mihara et al.

Filing Date

Group Art Unit

October 7, 2003

3681

U. S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	5,254,946	10/19/93	Guzik	324	261	

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
	2000-331460	30.11.00	Japan			X	
	2002-157858	31.05.02	Japan			X	
	2000-187821	04.07.00	Japan			X	

OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

	Ono et al. "Study on Reduction of Disk Flutter by Squeeze Air Bearing Plate," pgs 29-32.
	Tatewaki, et al. "An Analysis of Disk Flutter in Hard Disk Drives in an Aerodynamic Simulation, 2000, IEEE.
	Shimizu, et al. "Study of Aerodynamic Characteristics..." 2000, IEEE.
	Bittner et al. "Taming Disk/Spindle Vibrations..." 1999, IEEE.
	Shimizu et al. "Study of Aerodynamic Characteristics In Hard Disk Drives by Numerical Simulation," 2001, IEEE.

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP §609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

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FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

	Tatewaki et al. "An Analysis of Disk Flutter in Hard Disk Drives in Aerodynamic Simulations," 20001, IEEE.
	Heo et al. "Reducing Disk Flutter by Improving Aerodynamic Design of Base Castings," 2000, IEEE.
	Ono et al. "Suppression of Disk Flutter by A Squeeze Air-Bearing Plate," 2000, Birkhauser Boston.

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